

Litora
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СЕНА РИШ

LITORA
PSYCHOLINGUISTICA

To my dear colleague
DR. João V. Roso,
with best wishes.

Penina Baltora

Nov. '02

В древните индийски Веди е казано, че връзката ученик – учител е свещена. Благодаря на събата, че ми даде възможността да изживея това божествено усещане. Разумът и сърцето ми коленичат в знак на преклонение пред моите изключителни учители – проф. Мирослав Янакиев, акад. А. А. Леонтиев, проф. д-р Слама-Казаку, проф. Жан-Пиер ван Дем и др. Душата ми е изпълнена с благодарност към д-р Красимира Петрова и д-р Андреана Ефтимова, които в продължение на няколко месеца използваха своите професионални контакти в България и по света и създадоха прекрасна академична атмосфера, в резултат на която се появи този сборник. Бих искала специално да благодаря на юристката Веселина Георгиева, която подпомогна финансово издаването на тази книга; на Йордан Ефтимов и Силвия Вълкова – за многото часове работа върху ръкописа и на издателя – д-р Радко Шопов – за неговия финес и професионализъм.

Доц. д-р Пенка Илиева-Балтова

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(8) Child (2;4): Мамо, н[е] искам!

Mommy, I don't want!

Adult:

А, не може да не искаш! Яж тук, моля ти се!

Ah, it's not allowed, that you don't want! Please, eat!

In the Bulgarian adult-child interactions, explicit markers of politeness, such as embedded imperatives and interrogatives, do not appear until children leave the narrow family circle. In nursery school, where a greater social distance is maintained between children and caregivers, politeness becomes more important and children are stimulated to acquire and make use of indirect requesting strategies.

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DO FRICATIVE+PLOSIVE ONSETS EXIST WORD-INITIALLY IN EUROPEAN PORTUGUESE?

Gathering preliminary data and suggestive evidence from a small group of children in the phonological explicit task of syllable segmentation and examining some theoretical implications for the relationship between phonology and psycholinguistics

João Veloso

Фонологичните описания на европейския португалски не приемат, че началните проходно-преградни фонемни съществуват в този език дори когато на фонетично ниво те са много честни. В това изследване помолхем група португалски деца в предучилищна възраст да разделят няколко думи на срички. Всички думи започваха с ортографичната последователност "es" + консонант. Тази начална последователност може да бъде определена като гласна или съгласна ([s]) – начална; обаче тази последователност е по-вероятно да бъде открита. Повечето от нашите участници – които никога не са могли да бъдат основани върху ортографични знания за думите, тъй като бяха деца в предучилищна възраст – бяха много последователни в предпочитането за разделяне на срички, в което да се сложат началните проходно-преградни фонемни в началната позиция на думата. Ние разчитаме този резултат като предположение, че фонологичните знания на нашите информатори допускат такива начални фонемни, независимо от фонологичните интерпретации на тези структури. По този начин ние също кратко обсъждаме как данните от научната област, например психолингвистиката, могат да допринесат за възникването, оценката и валидността на някои теоретични обяснения като тези, предложени от фонологията.

Phonological descriptions of European Portuguese do not accept that initial fricative+plosive onsets exist in this language, even though at the phonetic level they are very frequent. In this study, we asked a group of pre-school Portuguese children to segment a few words into their syllables. All the words began with the orthographic sequence "es" + consonant. This initial sequence can be articulated either as vowel or consonant ([s])-initiated; however, the latter is more likely to be found. Most of our subjects – who could never be biased by the orthographic knowledge of the words, since they were pre-school children – were very consistent in preferring syllable segmentations that put an initial fricative+plosive onset in the initial position of the word. We read this result as suggesting that the phonological knowledge of our subjects admitted such initial onsets, in spite of the current phonological interpretations of these structures. Thus, we also briefly discuss how data from field studies – like psycholinguistic studies – can contribute to the emergence, assessment and validation of certain theoretical explanations – like the ones offered by phonology.

1. Introduction: The problem

The lexicon of European Portuguese (henceforth: Portuguese) contains a considerable amount of words whose orthographic form begins with the sequence

"Nes"+consonant. Due to a common phonetic feature of this language, known as "[j]-deletion" (Barbosa 1965: 13; Delgado-Martins 1975, 1996; Mateus & Delgado-Martins 1982: 113; Mateus et al. 1989: 364; Andrade 1993: 1; Mateus, d' Andrade 2000: 18, 32), these words are usually pronounced as if their first segment were the consonant that, in the written form, corresponds to 's' (e. g., "escada" ('stair'), articulated as [ʃkadej]), i. e., as though their beginning were, in metrical terms, complex onsets (see, for example, Blevins 1995: 216 ff.), similarly to what is found in English words' beginnings such as "sport" or "exam", for instance¹.

This is not the only admitted phonetic form of these words, since this phenomenon can be considered as a free, non-obligatory, non-systematic variation (see, among others, Strevens 1954: 14-15; Mateus, Delgado-Martins 1982: 111). In the Northern dialects of Portuguese, for instance, [j]-deletion in initial position alternates very often with realisations where a vowel (normally an [i]) is found in initial position: [ʃkadej]/[iʃkadej].

In addition, this variation is usually described as a purely phonetic phenomenon, for the forms where [j] is deleted are thought to be the phonetic counterparts of theoretical, underlying forms with a vowel in initial position (see, for instance, Mateus et al. 1989: 364), as contemplated by the official orthography of the language.

One of the main arguments of this interpretation is that sequences /CC/ in initial position in Portuguese are admitted under the following two circumstances only:

(i) if they correspond to sequences *plosive+liquid* ("plano" ('plain'), "praia" ('beach')) or *fricative+liquid* ("floresta" ('forest'), "fruta" ('fruit')), since these respect important constraints of the phonology of Portuguese, like the Sonority Hierarchy Scale, the Dissimilarity Condition and the Maximal Onset Principle (Vigário & Falé, 1993: 469, 470, 473-475; Mateus & d' Andrade 2000: 40 ff.);

(ii) in some special lexical items that entered the language as technical words, directly imported from languages like Classical Latin or Classical Greek in order to fulfil some specific needs of the language; in such cases, /CC/ clusters that apparently violate the metrical principles mentioned in (i) are largely possible. Words like "pneu" ('tyre'), "gnomo" ('gnome'), "lucife" (a word used to refer to some "discontinuous morphemes" in the grammar of Portuguese), "psique" ('psyche'), among many others, exemplify this situation².

Some authors, however, assume either that even beyond the cases mentioned in (i) and (ii) some initial /CC/ clusters must be accepted as well-formed sequences by most speakers/hearers of the language or that these sequences deserve a different interpretation.

Delgado-Martins (1996), for instance, suggests that the assumption that only *plosive+liquid* or *fricative+liquid* sequences are possible in Portuguese needs to be reanalysed. According to her conclusions, a new type of syllabic structure, not restricted to the phonetic level but also present at the phonological representation of lexical items, should be accepted in Portuguese, for words like the ones under analysis in our study; more precisely, Delgado-Martins' (1996: 322-323) proposal is that in these words [ʃ] can be assigned a syllabic value, so that words like "escada" could be interpreted as /ʃˑka.də/ (Delgado-Martins 1996: 322-323).

In this study, it is our aim to collect some preliminary evidence in order to sustain another interpretation of the phonetic sequences "[ʃ]+unvoiced consonant": fol-

lowing Delgado-Martins' (1996) postulate that new phonological explanations for certain phenomena have to be found, we simply propose that, in certain cases, sequences like *fricative+unvoiced plosive* can be accepted as *initial clusters of complex onsets in contemporary European Portuguese phonology*.

Moreover, we shall also discuss some issues related to the validity of certain theoretical assumptions – such as the ones that are postulated by phonology – when they are confronted with real data, such as data observed, collected and discussed by field research like psycholinguistics.

Therefore, we designed a simple experiment – which has to be read as a first exploration of this subject, to be deepened in future research – in which we somehow intended to look into the subjects' phonological awareness of the presence/absence of a word-initial vowel in the words of our corpus³. Some phonetic investigations have shown that, in words where a distinction based upon the difference /CC/ vs. /C[i]C/ is possible (in quasi-minimal pairs such as "atopetar"/"adaptar" ('to cover with a carpet"/'to adapt')), the distinction is always maintained – even when [i]-deletion determines that in words like "atopetar" no [i] is articulated between [p] and [t] – by means of the compensatory lengthening of the adjacent consonants (Andrade 1993: 14). Bearing in mind this kind of conclusion and assuming that the knowledge of the orthographic form of the words can bias the acceptance of certain segments not phonetically obligatory⁴, we wanted to see whether a group of pre-school children (not knowing the written forms of the language) segmented the syllables of a reduced corpus of 5 words of Portuguese with the initial sequences under consideration here.

As stated before, we assume that this is a first exploration of this question, and that, for this reason, any final remarks we may eventually reach should be read very carefully and must be deepened in further studies.

2. Experimental Study

2.1. Population

The subjects of this study were 13 children (10 boys + 3 girls) within the age range between 3;9 years and 6;5 years (mean = 4;10 years; SD = 10 months) who, in the year 2000-2001, attended a private kindergarten in the town of Maia (located at about 12 km from Porto, Northern Portugal). Almost every child of this population came from a middle-upper class social background, since more than 90% of their parents' jobs fit in the three higher ranks of the Portuguese National Index of Professional Occupations (IEFP 1994).

All children are monolingual, native speakers/hearers of European Portuguese; most of them show characteristic features of the Northern dialects of the language, such as the production of the nasal vowel [ã] and the neutralisation of the /b/-/v/ distinction.

As kindergarten children within the referred age range, none of the children could spell, read or write at the time when they took part in this experiment.

2.2. Methodology

Our results are based upon the task of syllabic segmentation of Portuguese words. According to fundamental studies like Liberman et al.'s (1974), this task

would raise no difficulties to children within the age range of our subjects and independent from, and prior to, the individuals' mastery of spelling, reading and writing.

Though, in order to be maximally sure that syllable segmentation was an available task to the children of our population, they were all pre-tested with a group of 6 words with the structure [CV:CV.CV] where V is a vowel not subject to deletion: all the children were perfectly capable of the proposed task.

Additionally, in order to avoid, as much as possible, that the experimenter's actual phonetic realisation of the words to be manipulated biased the children's responses, all words were elicited by the technique of picture-naming; this made possible to record not only the syllabic segmentation but the child's phonetic realisation of each word as well.

Before the application of the test, each child was presented a brief explanation of what was to be asked thereafter and subject to a pre-test session of a few words to be syllable-segmented by the child and the experimenter together. These pre-test words did not include any token of [j].

Every test was presented individually. Each test session lasted approximately 30 minutes.

2.3. Stimuli

The words our subjects were asked to segment were the following 5 words. All of them begin with the orthographic sequence "es+consonant" and can be articulated either as vowel-initiated or "[j]+unvoiced consonant"-initiated:

ESPONJA ("sponge") [(i)ʃpɔ̃ʒɐ]
ESCADA ("stair") [(i)ʃkade]
ESCOLA ("school") [(i)ʃkɔle]
ESCOVA ("brush") [(i)ʃkove]
ESPELHO ("mirror") [(i)ʃpeɫu]

2.4. Results

65 answers were obtained (= 5 words X 13 children).

Looking at the syllabic segmentation of the initial part of the words, we can identify two predominant types of answers:

- answers that suggest that the children accept "ʃ/+consonant" as an initial cluster of the words ([ʃpɔ̃.ʒɐ]); we will call these answers "ʃ/+C"-answers;
- answers that suggest that the children accept a vowel as the initial segment of the words ([ʃ.pɔ̃.ʒɐ]); we will call these answers "ʃj/+C"-answers.

Within the 65 obtained answers, we found one unique occurrence of a non-answer, from a child who said not to recognise the word "esponja". In the 64 remaining answers, only two do not fit in the two types considered above. The remaining 62 answers - which will be referred to as "valid answers" - can be categorised as follows:

- 37 (= 59.7 % of the 62 valid answers) accepted that the words of the corpus have a "ʃj/+consonant" cluster in initial position (they fit in the "ʃj/+C"-answers category). "merging" the two consonants into the same syllable;

- 25 (= 40.3 % of the 62 valid answers) belong to the "ʃj/+C"-answers category, since they accepted that the words of the corpus have a vowel in initial position, *dividing the two consonants into two different syllables*.

In addition, we must underline that children tend to be very consistent in their answers: each of them can be associated very clearly to one of the two types of answers, i. e., regardless of each specific word they tend to segment all the words either as "ʃj/+consonant"-initiated or [j]-initiated. This is not true for 3 of the 13 children only, who segmented certain words according to one type of answer, whilst others were segmented according to the other type.

2.5. Discussion

As we have already mentioned, this is a first study on this subject. In order to extract stronger conclusions, we would need to observe other types of data, namely from larger groups of subjects (from different Portuguese dialects) and larger corpora, too.

However, some remarks can be sketched from our data, one of which is that a slight majority of answers tend to consider these words as though they were initiated by a homosyllabic cluster formed by ʃj plus a consonant. This syllabic structure is in conflict:

(a) with current phonological descriptions of the language (e. g., Mateus *et al.*, 1989:364) that postulate that these clusters exist at the phonetic level only; since at the phonological one they have a structure like /ʃj.C.../. and that the clusters mentioned earlier in (i) and (ii) are the only admitted clusters in this language (see also Mateus & d' Andrade 2000: 40 ff.);

(b) with other alternative explanations, like the one of Delgado-Martins (1996), which accept that [ʃ] can, in fact, be the first segment of the word - i. e., that it is not obligatory to accept a vowel as its initial segment -, but only if syllabic value is recognised to the fricative, provided this fricative is kept apart from the following plosive in a different syllable.

If only the interpretations under (a) and (b) above had some strong relation to the actual phonological knowledge of our subjects, two kinds of answer among our subjects would have been clearly observed:

(A) If the phonologists' interpretation under (a) above had a definite implementation in the phonological knowledge of our subjects, then the percentage of "ʃj/+C"-answers should have been higher. As we have seen, notwithstanding, they correspond to a minority of answers. Still, we believe that if our subjects originated most from the Southern dialects of European Portuguese, where [j]-deletion is more frequent than in the Northern dialects, the percentage of this type of answers would have been even smaller, since we hypothesise that the regular access of our subjects to phonetic realisations with a word-initial [j] contributed to shape these words in their mental lexicon as initiated with syllabic structures such as /ʃj.C.../. One way of analyse the validity of this explanation would consist of applying the same methodology to children from the Southern dialects of Portuguese, which is part of our future plans of research.

(B) If, by the other hand, interpretations such as the one mentioned in (b) had some visible place in the phonological knowledge of our subjects, then a significant

number of segmentations such as [ʃ.ka.dɐ] should have been observed. Nonetheless, we did not collect any answers of these.

These considerations oblige us to reconsider the validity of assumptions such as what is found under (a) and (b) above and the arguments upon which such assumptions are postulated. A more detailed discussion of this general remark is developed in 3.

3. Final Remarks and Some Theoretical Implications

In addition to the comments included in the discussion of the experimental results (see 2.5), and, once again, in spite of the limitations of this study, we think that three main theoretical implications may be inferred from our research.

1 – First of all, this kind of exploration can illustrate how psycholinguistic research may be seen as a way of validating some proposals from descriptive, theoretical disciplines such as phonology, when certain postulates do not show themselves as strongly related to the actual linguistic knowledge of “real speakers”. In fact, as we have seen, phonologists insist on explaining some phonetic and phonological data on the basis of assumptions that are not related to what real speakers/hearers seem to know about their own language, even if these assumptions are undoubtedly coherent and elegant within the theoretical frameworks under which they are elaborated. In our opinion, whenever a conflict is identified between theoretical assumptions and real data, the former should be shaped so that the latter could be fully understood and explained, not the contrary. This is the sole reason for us to propose that, in the current stage of the historical evolution of European Portuguese, word-initial, homosyllabic clusters *fricative+plosive* should be accepted as well-formed sequences of the language, since most speakers appear to accept such syllabifications.

2 – Secondly, it is also our aim to underline that explicit manipulation of verbal stimuli, such as syllable segmentation, offers us an accurate insight of how certain phonological structures are represented in the “mental grammar” of subjects. Faced with the need of deliberately enhance the properties of their internalised grammar, subjects who are asked to accomplish tasks as syllable segmentation provide us with data that turn some implicit knowledge into explicit evidence and are not biased by factors such as rate or style of speech. So, we assume that one major contribution of psycholinguistic research deals with the necessity of improving methodologies that enable us to fully explore what has been traditionally referred to as “metalinguistic abilities”.

3 – Finally, we assume that the exploration of phonological knowledge and awareness must take into consideration the data from illiterate subjects separately from subjects who know the spelling/writing conventions of their language. A huge amount of experimental evidence shows us that literate subjects’ phonological knowledge is biased by their knowledge of the spelling/writing conventions. This makes us believe that our results would have been different if other subjects, such as illiterate children or adults, had been observed: the official orthography of the language imposes that words with the initial sequence “*es*”+**consonant** be syllabified as if “*s*”, and the following consonant belonged to different syllables. This convention is particularly important as far as parting a word into two different written lines is

concerned, since Portuguese line-partition is strictly syllabic. Although this is a mere convention – that can be changed no matter when – all literate subjects are supposed to know it; one stage of the further development of this research consists precisely of applying the same methodology to such subjects in order to confirm or reject this hypothesis. This kind of arguments enhances the conclusion that illiterate subjects’ data are likely to be preferable to data from literate subjects in the study of basic aspects of phonological knowledge and that comparisons between the results of each group are worthy to be established.

Notes

¹ “*s*” may also be articulated as [ʃ], if the following consonant is voiced (e. g., “*esboço*” (“sketch”), articulated as [ʃbososul]). In the present study, only sequences “*Nes*”+**unvoiced consonant** will be taken into consideration.

² These /CC/ clusters can also be found in medial position (“*apuzia*” (“lack or difficulty of breathing”), “*mazua*” (“magma”)); faced with these sequences, most speakers, namely in a colloquial style, introduce a vowel (normally an [i] in European dialects, an [j] in Brazilian dialects) between the two consonants (“*pijnetu*”), which is seen by phonologists as an evidence that these sequences are not “felt” by the native speakers of Portuguese as expected sequences in the phonology of their language (Camara 1971: 27; Barbosa 1965: 14; Mateus & Delgado-Martins 1982: 111; Mateus & d’Andrade 2000: 32-33). Mateus & d’Andrade (2000:44) propose that the consonants of these apparent clusters belong to different syllables, and that the first of these syllables has an “empty nucleus”.

³ In some sort, this study is the continuation of a previous research of ours (Velooso, forthcoming), in which we tried to see whether the native speakers/hearers of European Portuguese are aware of the presence of a word-final [i] in words where this vowel is often subject to deletion as well.

⁴ This assumption was also explored in our previous study referred to earlier (Velooso, forthcoming) and is based upon the results of “classical” studies like, for instance, Seidenberg e Tannenhaus’ (1979) and Ehri e Wilce’s (1979), among many others, which demonstrated that the processing of phonological structure among subjects who know the written representation of words differs from the processing of subjects without this kind of knowing.

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RHYTHM PERCEPTION IN BULGARIAN AND IN ENGLISH

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В това експериментално изследване на перцепцията на ритъм в българския и английския език две групи слушатели – българи и англичани – оценяват ритмичното сходство между двойки стихотворни стимули с помощта на 7-бачна скала. Получените матрици на сходство са анализирани с помощта на йерархичен клъстерен анализ и на многомерно психологическо скалиране. Изчерпени са и някои от основните акустични характеристики на стимулите като времетраене, честота на основния тон и интензитет. Използван е корелационен анализ с цел да се открият зависимости между акустичните характеристики на стимулите и тяхното групиране при многомерно скалиране и клъстерния анализ.

The aim of the experiment is to study rhythm perception in English and in Bulgarian. A group of Bulgarian and a group of English subjects judge the rhythmic similarity between pairs of verse stimuli with the help of a 7-point scale. The similarity matrices obtained in this way are processed by means of hierarchical cluster analysis and multidimensional scaling. Some major acoustic characteristics of the test stimuli are measured: syllable and foot duration, fundamental frequency and intensity changes in stressed and in unstressed syllables, etc. Correlation analysis is used in order to look for interrelations between these acoustic characteristics and the perceptual results.

1. Introduction

Rhythm characterises many human activities which range from breathing and walking to singing and speaking, but its nature is surprisingly difficult to define. This is particularly true of the rhythm characterising human speech. Probably everybody would agree that speech in general is rhythmical. However, answers to questions such as “Is all speech rhythmical?”, or “Is all speech equally rhythmical?” are likely to differ greatly. What is rather surprising is that, in many descriptions of the phonetics and phonology of a given language, one comes across attempts to classify its rhythm in terms of a single dichotomy – “stress-timed rhythm” vs. “syllable-timed rhythm”.

English is almost unanimously claimed to be a language with stress-timed rhythm. Researchers who have studied the rhythmic organisation of contemporary standard Bulgarian, on the other hand, have come to largely differing conclusions about the type of rhythmic structuring typical of it. We believe that a contrastive approach to the study of Bulgarian speech rhythm may turn out to be more promising, especially if a comparison is made with a language the rhythmic peculiarities of which have been investigated in sufficient detail. English is perhaps the language whose rhythm has been studied in greatest detail, therefore, it can provide a basis for conducting such an investigation.